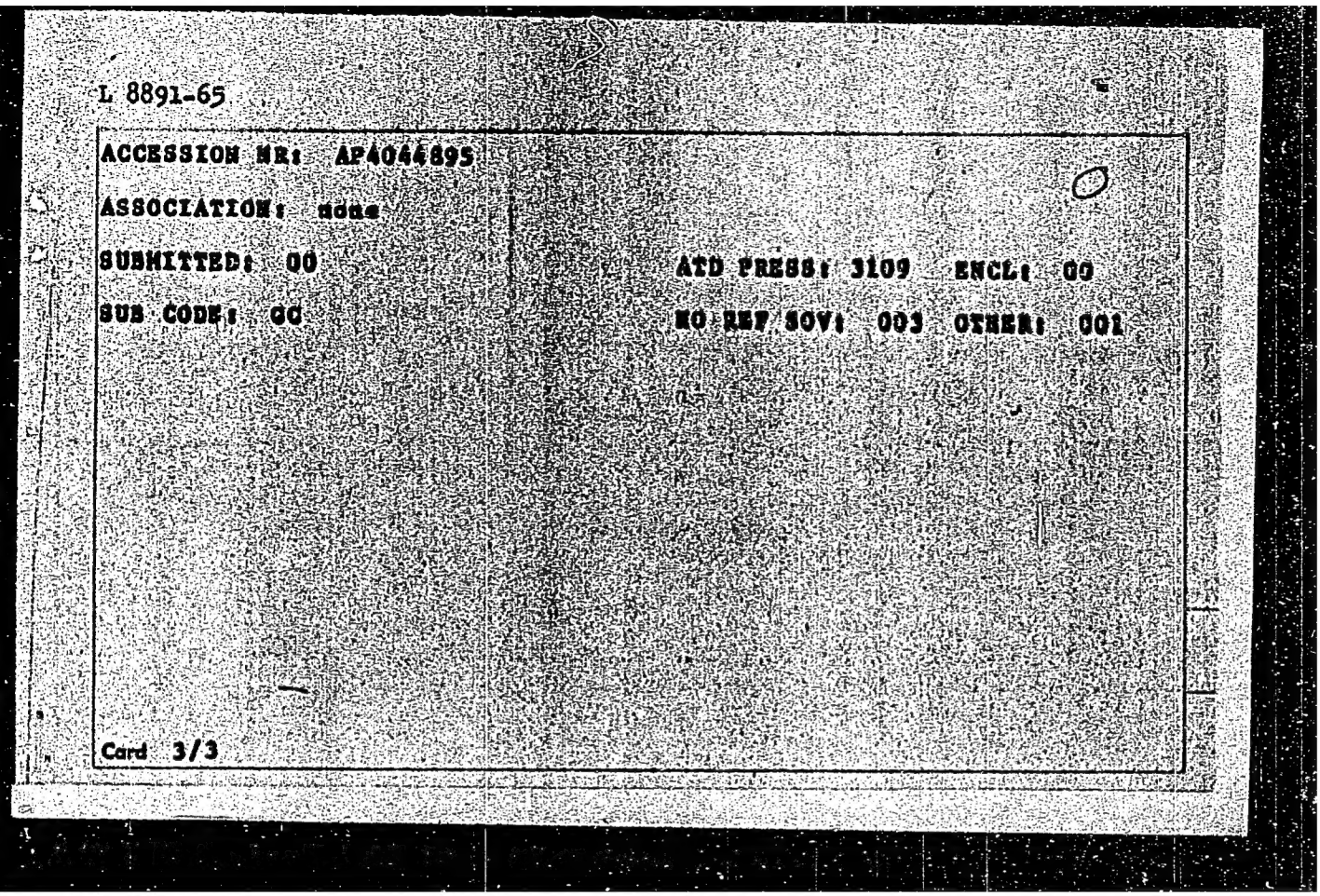
L 8891-65

ACCESSION NR: AP4044895

periments the source was enclosed in a chamber with nitrogen circulation, which is described. The nitrogen circulation eliminated molecular bands of SiO and SiO_2, which decrease sensitivity of boron determination. Boron spectral line 2497.73 Å was selected for photometric measurements, and intensity-time data were recorded graphically. The data indicated that 1) the only usable standards in a convential operation in the air are those containing boron in the form of boron carbide (the standards containing boron-oxygen compounds give results much too low), 2) a decrease in the thickness of the walls of the graphite electrode activates boron evaporation, and 3) operation in nitrogen atmosphere requires longer time of exposure, but this does not diminish its advantage if permanent calibration graphs are used. Permanent calibration graphs and nomographs were established for spectroscopic determination of boron in graphite, silicon, and silicon carbide, and for spectrochemical determination in silicon. Sensitivity of determination was 5×10^{-4}% in graphite, 10^{-4}% in silicon and silicon carbide, and more than 10^{-6}% in boron concentrates from silicon. The use of control samples is necessary. Orig. art. has: 6 figures.

Card 2/3



L 8891-65

ACCESSION NR: AP4044895

ASSOCIATION: none

SUBMITTED: 00 ATD PRESS: 3109 ENCL: 00

SUB CODE: GC NO REF SOV: 003 OTHER: 001

Card 3/3

L 19625-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4
IJP(c)/AFWL/RAEM(a)/SSD(c)/ASD(a)-5/AEDC(b)/AFMD(c)/RAEM(c)/SSD/RAEM(i)/
RAEM(j)ESD(ge)/ESD(t) JD/WW/WH
ACCESSION NR: AP5000157 S/0032/64/030/012/1459/1463

AUTHORS: Karpel', N. G.; Shaparova, V. V.

TITLE: Permanent plot method for the spectral determination of impurities in gallium arsenide

SOURCE: Zavodskaya laboratoriya, v. 30, no. 12, 1964, 1459-1463

TOPIC TAGS: spectroscopy, impurity content, gallium arsenide, spectrometry/ ISP 28 spectrograph, SP 2 spectral plates

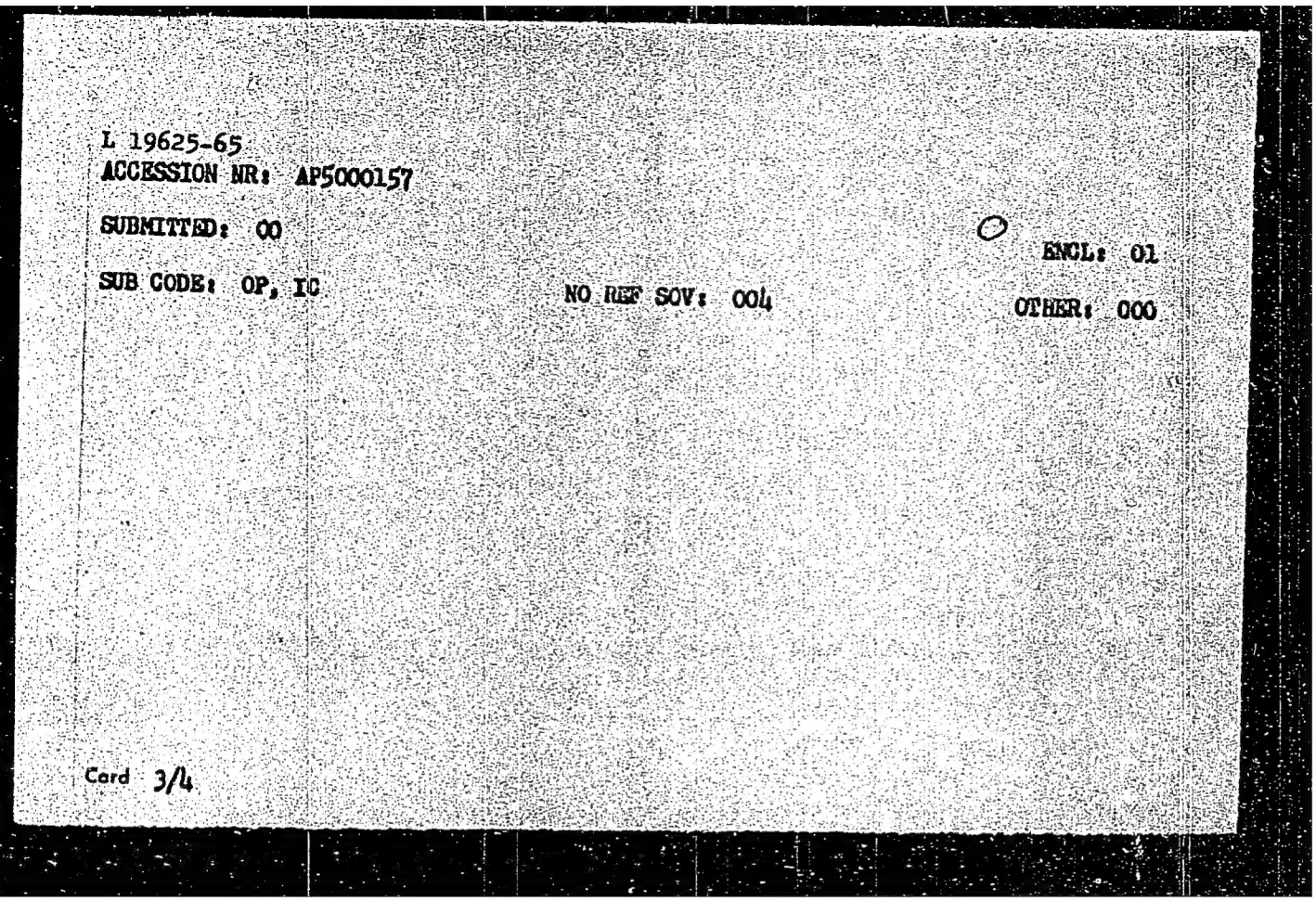
ABSTRACT: The method presented here makes use of a permanent graph for correcting spectral measurements without photographing the standard. The use of such a graph, constructed beforehand from a large number of parallel determinations, increases the reliability of the results. In this work, the synthetic standards are prepared from the material to be analyzed and graphite powder with specified quantities of the impurities in the form of oxides of the elements. The compositions of the specimens and of the standards are judged from the speed and the sequence of their arrival at the arc. The spectrum of the arc is photographed for each quantity. For further resolution, the film is measured in a photomicrometer. From the data obtained, the permanent plots (see Fig. 1 on the Enclosure) were established for

Card 1/4

L 19625-65
ACCESSION NR: AP5000157

eight elements. A device using a transparency was developed to facilitate the calculations. The necessary data is obtained by moving the transparency (with the previously imprinted theoretical curves combined with the experimental curves) in two perpendicular directions. Three gallium lines, I λ = 3058.7 Å, II λ = 2987.58 Å, and III λ = 3015.5 Å, were used to make the plate corrections as follows: the plate contrast γ was calculated from the ratio log I_I/I_{II} = 0.27 and from the difference of the darkening in the straight region of the characteristic curve; the variable q determining the nonlinearity of the characteristic curve was found from log I_I/I_{III} = 0.63. To transfer from the plate of the specimens to the reference plate of the permanent plot, the λ = 2987.58 Å line of gallium was used as a "control line." With a constant arc current, exposure, and depth of the carbon electrode crater, the control line was used for making small changes in the focusing. Two nomograms were constructed to facilitate the calculations. The details of a specimen analysis using the permanent plot method are described and the measurements are compared with those obtained by using the repeatedly photographed standard method. The impurity sensitivity of the new method was as follows: Ti, Pb, Sn, Fe, Al $\leqslant 10^{-4}$%; Si, Mg, Mn, Cu $\leqslant 1 \cdot 10^{-5}$%. Orig. art. has: 1 table and 6 figures.

ASSOCIATION: none
Card 2/4



L 19625-65
ACCESSION NR: AP5000157

SUBMITTED: 00 ENCL: 01

SUB CODE: OP, IC NO REF SOV: 004 OTHER: 000

Card 3/4

L 19625-65
ACCESSION NR: AP5000157

ENCLOSURE: 01

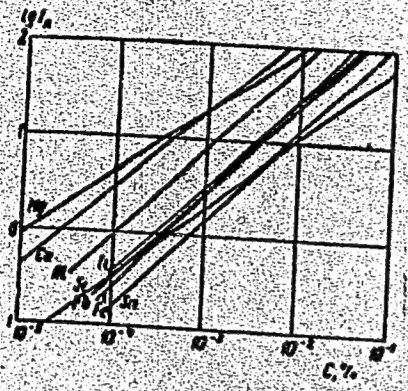


Fig. 1.

...panent graph for determining the impurities
...allium arsenide.

Card 4/4

RUBINSHTEYN,R.N.; KARPEL',P.G.

Using nomographic computation methods in the practice of spectrum analysis. Izv. AN SSSR. Ser. fiz. 19 no.1:128-129 Ja-F '55. (MLRA 8:9)

(Spectrum analysis) (Spectrometer)

KARPEL', Ya.D.; MOTYGINA, S.A.

Use of synchronous motors in the petroleum refining industry and in petroleum chemistry. Prom. energ. 15 no.9:23-25 S '60.
(MIRA 13:10)

(Petroleum industry--Electric equipment)
(Electric motors, Synchronous)

KARPEL', Ya.D., inzh.

Start network of synchronous motors. Energetik 12 no.3:25-26 Mr '64. (MIRA 17:4)

PRASLICKA, M.; KARPEL, Z.; MRAZ, L.

Effect of controlled hypothermia on survival and peripheral blood picture in mice and rats following irradiation. Cesk. fysiol. 7 no.3:284-285 May 58.

1. Ustav biologie lek. fak. v Kosiciach a Ustav biofyziky CSAV, Brno.
(BLOOD CELLS,
count, eff. of hypothermia in irradiated animals (Cz))
(RADIATIONS, eff.
eff. of hypothermia on survival & blood count (Cz))
(HYPOTHERMIA, eff.
on blood count & survival in irradiated animals (Cz))

KARPELEVICH, F.I.

Karpelevič, F. I. Pseudonorms in the ring of integers. Uspehi Matem. Nauk (N.S.) 3, no. 5(27), 174–177 (1948). (Russian)

Let ϕ be a real-valued function on the integers satisfying $\phi(0)=0$, $\phi>0$ otherwise, and the triangle inequalities for addition and multiplication. The author proves that the induced topology can be described by taking as neighborhoods of 0 the ideals of a geometric progression. As the author acknowledges, a more general result was proved by Mahler for rings of algebraic integers [Acta Math. 67, 283–328 (1936)]. The proof follows the same lines as Mahler's, but takes advantage of the simplifications possible in this special case.

I. Kaplansky (Princeton, N. J.).

Source: Mathematical Reviews, Vol 10 No. 4

KARPELEVICH, F.I.

Karpelevič, F. I. On characteristic roots of matrices with nonnegative coefficients. Uspehi Matem. Nauk (N.S.) 4, no. 5(33), 177–178 (1949). (Russian)

Consider matrices of order n, with nonnegative coefficients, and maximal modulus of characteristic roots equal to 1. Let M_n be the representation in the complex plane of the set of characteristic roots of all such matrices. A k-gon P_k is called cyclic if there exist a complex number λ and an integer p, divisor of k, such that P_k is the convex envelope of points $\lambda e^{2\pi i q/m}$, $m=0, 1, \cdots, q=0, 1, \cdots, m-1$. The theorem stated is: M_n is the union of all cyclic P_k for $k \leq n$. Particular cases of this theorem were proved by Dmitriev and Dynkin [Bull. Acad. Sci. URSS, Sér. Math. [Izvestia Akad. Nauk SSSR] 10, 167–184 (1946); these Rev. 8, 129].

M. Loève (Berkeley, Calif.)

Source: Mathematical Reviews, Vol 11 No. 3

KARPELEVICH, F.I.

9

Karpelevič, F. I. On the characteristic roots of matrices with nonnegative elements. Izvestiya Akad. Nauk SSSR. Ser. Mat. 15, 361-383 (1951). (Russian)

The domain containing characteristic roots of nXn matrices with nonnegative elements and fixed maximum of moduli of the roots is found. This solves a problem stated by Kolmogoroff in connection with Markoff chains and partially solved by Dmitriev and Dynkin [same Izvestiya 10, 167-184 (1946); these Rev. 8, 129]. *M. Loève.*

Source: Mathematical Reviews, Vol. 13, No. 3

KARRELEVICH, F.I.

Karpelevič, F. I. On nonsemisimple maximal subalgebras of semisimple Lie algebras. Doklady Akad. Nauk SSSR (N.S.) 76, 775–778 (1951). (Russian)

Let G be a semisimple Lie algebra, Σ and Π systems of roots and simple roots respectively. To a maximal nonsemisimple subalgebra G_1 there is attached a subsystem Σ_1 of Σ. The author first shows that $\Sigma_1 \cup (-\Sigma_1) = \Sigma$. In the remaining investigation, the hypothesis of maximality is replaced by this weaker condition. After an inner automorphism, Σ_1 can be described as the set of all roots having nonnegative coefficients on a certain subset Π_1 of Π. The case of maximality is that where Π_1 has just one element.

I. Kaplansky (Chicago, Ill.)

Source: Mathematical Reviews, Vol 13 No. 6

KARPELEVICH F. I.

USSR/Mathematics - Modern Algebra 21 Aug 52
Matrices

238T90

"Classification of the Simple Subgroups of Real Form of a Group of Complex Unimodular Matrices," F. I. Karpelevich, Moscow State U

"DAN SSSR" Vol 85, No 6, pp 1205-8

Considers the vectors x+iy (x, y in real Lie algebra R) and associates with each real algebra R a complex Lie algebra designated by /R/, which is defined in a real manner by the familiar commutative operation or

238T90

imaginaries. Algebra R is called the real form of algebra /R/, following E. Cartan. Established theorems relating these two algebras. Submitted by Acad A. N. Kolmogorov 1 Jul 52.

238T90

KARPELEVICH, F. I.

(1)

Karpelevič, F. I. Surfaces of transitivity of a semisimple subgroup of the group of motions of a symmetric space. Doklady Akad. Nauk SSSR (N.S.) 93, 401–404 (1953). (Russian)

This work is based on the well known results of E. Cartan on semi-simple groups. If $\mathfrak{M}$ is a symmetric Riemann space of negative curvature, its group of motions $\mathfrak{G}$ is semi-simple and the stationary subgroup $\mathfrak{H}$ is a maximal compact subgroup of $\mathfrak{G}$. Let G be the Lie algebra of $\mathfrak{G}$ and $\varphi(g, h)$, $g, h \in G$, the Cartan invariant bilinear form. Let H be a subspace of G. The set of elements X of G such that $\varphi(x, h) = 0$ for all $h \in H$ is called the orthogonal complement of H (in G). Let $\tilde{\mathfrak{G}}$ be a semi-simple subgroup of $\mathfrak{G}$ and $\tilde{\mathfrak{H}}$ a maximal compact subgroup of $\tilde{\mathfrak{G}}$. Let $\tilde{G}$ and $\tilde{H}$ be their subalgebras and $\tilde{X}$ the orthogonal complement of $\tilde{H}$ in $\tilde{G}$. Then $\tilde{G}$ is canonically imbedded in G if there exists a maximal compact subalgebra H of G such that $\tilde{H} \subset H$ and $\tilde{X} \subset X$. The two theorems the author proves are as follows. Let $\tilde{G}$ be canonically imbedded in G and let $\tilde{H} \subset H$ and $\tilde{X} \subset X$. If M is a point whose stationary subalgebra is H and $\mathfrak{S}$ is the surface of transitivity of $\tilde{G}$, containing M, then $\mathfrak{S}$ is totally geodesic (with respect to the metric $\varphi(a, k)$). The other theorem states that if $\tilde{\mathfrak{G}}$ is a semi-simple subgroup of $\mathfrak{G}$ then it is canonically imbedded in $\mathfrak{G}$.

M. S. Knebelman.

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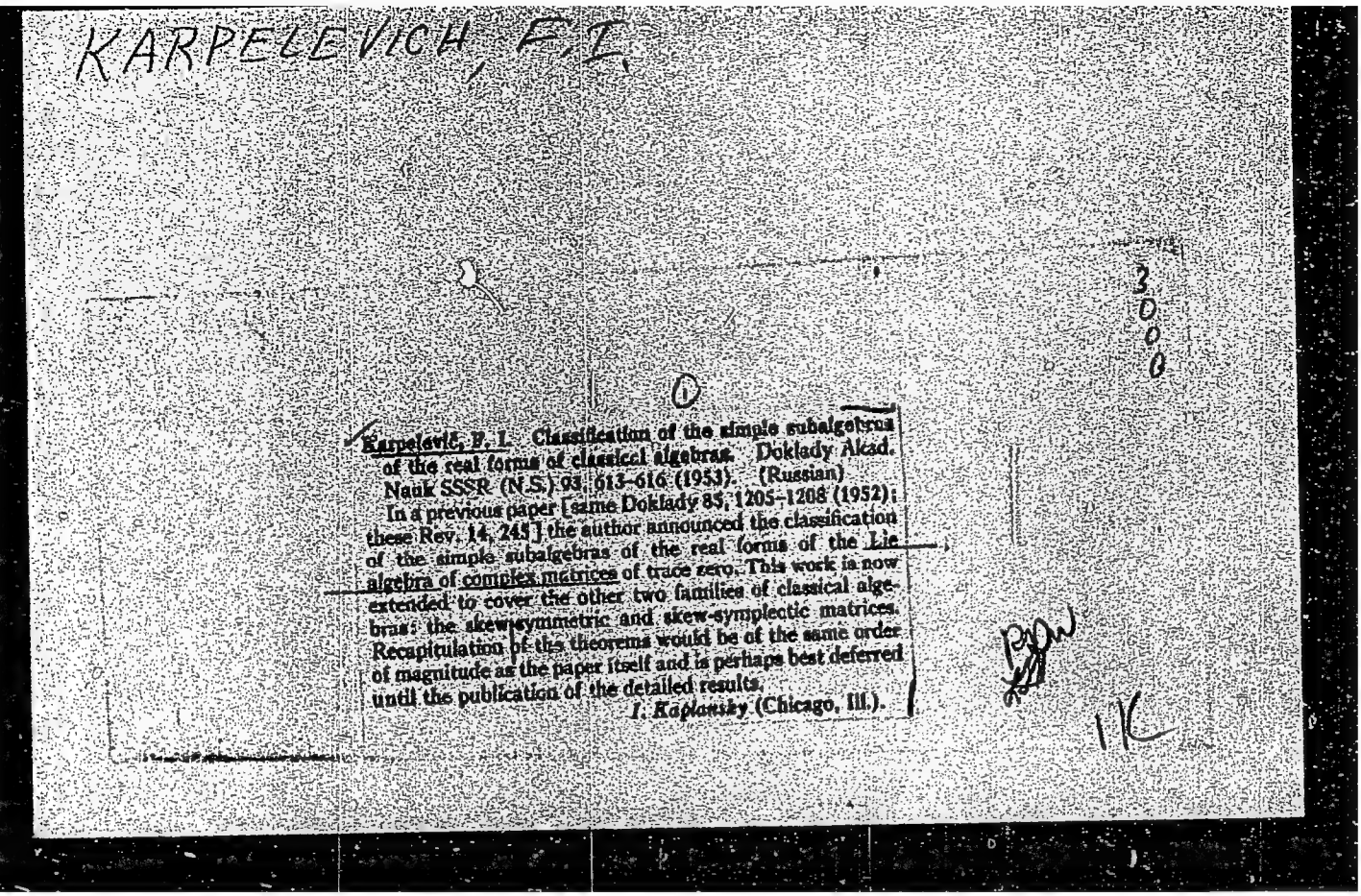


KARPELEVICH, F. I.

Karpelevič, F. I. Classification of the simple subalgebras of the real forms of classical algebras. Doklady Akad. Nauk SSSR (N.S.) 93, 613–616 (1953). (Russian)

In a previous paper [same Doklady 85, 1205–1208 (1952); these Rev. 14, 245] the author announced the classification of the simple subalgebras of the real forms of the Lie algebra of complex matrices of trace zero. This work is now extended to cover the other two families of classical algebras: the skew-symmetric and skew-symplectic matrices. Recapitulation of the theorems would be of the same order of magnitude as the paper itself and is perhaps best deferred until the publication of the detailed results.

I. Kaplansky (Chicago, Ill.).

KARPELEVICH, F.I.

Simple subalgebras of real Lie algebras. Trudy Mosk.mat. ob-va 4: 3-112 '55. (MLRA 8:7)
(Groups, Theory of) (Spaces, Generalized)

KARPELEVICH, F. I. Cand Phys-Math Sci --(diss) "Subgroups of Lie's ~~elementary~~ simple groups, and homogeneous ~~expanses of~~ spaces." Mos, 1956. 3 pp 20 cm. (Mos Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov. ~~Mechan~~-Math Faculty), 100 copies

(KL, 7-57, 104)

Karpelevich, F.I.

SUBJECT USSR/MATHEMATICS/Topology CARD 1/1 PG - 990
AUTHOR KARPELEVICH F.I.
TITLE On the fibre space of homogeneous spaces.
PERIODICAL Uspechi mat.Nauk 11, 3, 131-138 (1956)
reviewed 7/1957

The principal result of the present paper is the proof of the following theorem: The factor space G/H, where G and H are semi-simple group spaces can be fibred homogeneously. Here the fibres are Euclidean spaces and the basis is a space K/P, where K and P are maximal compact subgroups of G and H respectively. After some considerations and definitions on the fibre space of group spaces the author introduces the essential notion of the generalized Grassmann space. This is the totality $\{S\}$ of all totally geodesic manifolds S of a symmetric Riemannian space of non-positive curvature, where the S are obtained one from another by the transformations of E. Now it is shown that every homogeneous space M with a semi-simple motion group G can be mapped homomorphically onto such a generalized Grassmann space $\{S\}$. The above mentioned theorem then follows in essential by showing at first that $\{S\}$ can be fibred in the above manner.

KARPELEVICH, F.I.

AUTHOR: BEREZIN, F.A. and KARPELEVICH, F.I. 20-113-1-1/

TITLE: Zonal Spherical Functions and Laplace Operators on Some Symmetric Spaces (Zonal'nyye sfericheskiye funktsii i operatory Laplasa na nekotorykh simmetricheskikh prostranstvakh).

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol 118, Nr 1, pp 9-12 (USSR)

ABSTRACT: Let $\mathfrak{M} = G/H$ be a homogeneous space with compact stationary subgroup H. As a Laplace operator on $\mathfrak{M}$ according to Gel'fand [Ref.1] a differential operator Δ is denoted which commutates with the translation operators. Let R be the manifold of the functions on $\mathfrak{M}$ which are constant on the transitivity surfaces of the subgroup H. Each Laplace operator induces a certain differential operator on R; This is denoted as the radial part of Δ, in symbols $\mathring{\Delta}$. Let the space $\mathfrak{M}^+_{n,k}$ $(n \geqslant 2k)$ be the manifold of the k-dimensional subspaces of the n-dimensional complex space; let $\mathfrak{M}^-_{n,k}$ be dual to $\mathfrak{M}^+_{n,k}$ according to Cartan and finally let $\mathfrak{M}^0_{n,k}$ be the space of all complex matrices with k-lines and n-k rows. In the present paper the author calculates the $\mathring{\Delta}$ of the Laplace operators Δ and the zonal spherical functions belonging to the irredu-

Card 1/2

Zonal Spherical Functions and Laplace Operators on Some Sym- 20-118-1-1/58
metric Spaces

cible representations in the spaces $\mathfrak{M}^{+}_{n,k}$, $\mathfrak{M}^{-}_{n,k}$ and $\mathfrak{M}^{o}_{n,k}$. 1 Soviet and 1 foreign reference are quoted.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V.Lomonosov)

PRESENTED: June 24,1957 by P.S. Aleksandrov, Academician

SUBMITTED: June 21,1957

AVAILABLE: Library of Congress

Card 2/2

KARPELEVICH, F.I.

16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s"yezd. 3rd, Moscow, 1956

Trudy. t. 3: Kratkiye soderzhaniye sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow. vol. 4: Summary of Sectional Reports. Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959.
247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: G.M. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.M. Nikol'skiy (Resp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, K.A. Rybnikov, P. L. Ul'yanov, V.A. Uspenskiy, M.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the editor, the title entist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

Karpelevich, F.I. (Moscow). Semisimple subgroups of real groups 10

Kurbatov, V.A. (Sverdlovsk). Solvable equations of prime power 11

Mukhamedzhan, Sh. Kh. (Sverdlovsk). On the theory of infinite solvable groups 12

Sorkin, Yu. I. (Moscow). Rings as sets with one operation subjected to a single identity 13

Section on Differential and Integral Equations

Andrianov, G.N. (Kazan'). Integral equations of inverse boundary value problem 14

Vinograd, R.E. (Moscow) On the upper bound of characteristic indices in small perturbations 14

Vishik, M.I. (Moscow). Solution of boundary value problems for elliptic equations in certain functional spaces 14

16(1),16(2) 05794

AUTHORS: Karpelevich,F.I., Tutubalin,V.N., and Shur,M.G. SOV/52-4-4-5/13

TITLE: Limit Theorems for the Compositions of Distributions in the Lobachevskiy Plane and Space

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1959, Vol 4, Nr 4, pp 432-436 (USSR)

ABSTRACT: The authors investigate random variables in the Lobachevskiy space or plane L. The Borel measure $\mu(\Gamma)$ is called symmetrical if for every Borel set Γ and every rotation h around the coordinate origin 0 it holds: $\mu(h\Gamma) = \mu(\Gamma)$. The composition $\mu_1 * \mu_2(\Gamma)$ is defined by $\mu_1 * \mu_2(\Gamma) = \int_L \mu_1(\theta_x^{-1}\Gamma)\mu_2(dx)$, where θ_x is a motion in L which transforms 0 into the point x.
Theorem 1: Let $\varphi(\eta)$ be a bounded zonal spherical function (compare [Ref 2]). Then $\int\varphi(\eta)\mu_1 * \mu_2(dx) = \int\varphi(\eta)\mu_1(dx) \cdot \int\varphi(\eta)\mu_2(dx)$, where $\eta = \varrho(0,x)$ is the noneuclidean distance between 0 and x and μ_1, μ_2 are symmetrical measures.

Card 1/3

Limit Theorems for the Compositions of Distributions in the Lobachevskiy Plane and Space

05794
SOV/52-4-4-5/13

Definition: the function $f(\varsigma) = \int \varphi(\varsigma,\eta)\hat{\mu}(d\eta)$ is called a characteristic function of first kind for the finite symmetrical measure μ. (Here $\hat{\mu}(A) = \mu\{x;\varsigma(0,x)\in A\}$).

Theorem 2: Let μ_n be a sequence of symmetrical measures, $\mu_n(L)\leq 1$; let its characteristic functions converge to $f(\varsigma)$. Then μ_n converges weakly to a measure μ the characteristic function of which is $f(\varsigma)$, where $\mu(L)\leq 1$.

Definition: $g(\varsigma) = \frac{f(\varsigma)}{f(0)}$ is called a characteristic function of second kind.

Theorem 3: If $g_n(\varsigma)$ converges to $g(\varsigma)$, if $\lim_{\eta\to\infty} h(\eta) = 0$ and if $\int_0^\infty h(\eta)\hat{\mu}_n(d\eta) \to \int_0^\infty h(\eta)\hat{\mu}(d\eta)$, then the measures μ_n converge weakly to μ.

Card 2/3

Limit Theorems for the Compositions of Distributions in the Lobachevskiy Plane and Space

05794
SOV/52-4-4-5/13

Definition: Let the dispersion of μ be

$$D(\mu) = -g''(\vartheta)\Big|_{\vartheta=0} = -\frac{f''(0)}{f(0)} .$$

It holds

$$D(\mu_1 * \mu_2) = D(\mu_1) + D(\mu_2) .$$

Theorem 4 treats the convergence of the sequence $\mu_{n,1} * \mu_{n,2} * \cdots * \mu_{n,k_n}$.

The authors mention M. Ye. Gertsenshteyn and V. B. Vasil'yev. There are 2 Soviet references.

SUBMITTED: December 25, 1958

Card 3/3

16(1)

AUTHOR: Karpelevich, F.I. SOV/20-124-6-5/5

TITLE: Geodesics and Harmonic Functions on Symmetric Spaces (Geodezicheskiye linii i garmonicheskiye funktsii na simmetricheskikh prostranstvakh)

PERIODICAL: Doklady Akademii nauk SSSR,1959,Vol 124,Nr 6,pp 1199-1202(USSR)

ABSTRACT: Let G be a connected semisimple Lie group, K its maximum compact subgroup and $\mathfrak{M}$ the homogeneous space G/K. With respect to the invariant metric $\gamma\mathfrak{M}$ is a symmetric Riemannian space with nonnegative curvature. Let the distance $\rho(\gamma_1,\gamma_2)$ between two geodesics γ_1 and γ_2 be defined in a natural way. The set of the geodesics, the distance of which from γ_0 vanishes: $\rho(\gamma,\gamma_0)=0$ is denoted as the zero bundle with the geodesic γ_0. Let the space $\mathfrak{P}$ of these zero bundles be considered. Let $\mathfrak{P}(\Gamma_0)$ be the set of the zero bundles Γ, for which $\rho(\Gamma_0,\Gamma)<\infty$. Theorem: $\mathfrak{P}(\Gamma)$ is a symmetric Riemannian space for each zero bundle Γ. Two geodesics γ_1, γ_2 are called conjugate, if there is a $g\in G$, so that $g\gamma_1=\gamma_2$. Theorem: If $\rho(\gamma_1,\gamma_2)<\infty$,

Card 1/3

then γ_1 and γ_2 are conjugate. Now there are connected a series of groups with γ : Let $G(\gamma)$ $[G^0(\gamma)]$ be the set of all $g \in G$, for which $\varrho(g\gamma,\gamma) < \infty$ $[\varrho(g\gamma,\gamma)=0]$. Each γ is a trajectory of the one-parameter subgroup $h_t(\gamma)$ of G. The set of all elements of $h_t(\gamma)$ for different t and γ going through the point x is denoted as T_x. Let K_x be the stationary subgroup of x. Let $H(\gamma)$ be subgroup of $h_t(\gamma)$, $\mathfrak{G}(\gamma)$ the centralizer of $H(\gamma)$, $T(\gamma)=T_x \cap \mathfrak{G}(\gamma)$ and $K(\gamma)=K_x \cap \mathfrak{G}(\gamma)$, where $x \in \gamma$. Theorem: $\mathfrak{G}(\gamma)$ is transitive in $\mathfrak{P}(\Gamma)$, where Γ is a zero bundle containing γ. Theorem: γ is a continuous homomorphism of $G(\gamma)$ onto $\mathfrak{G}(\gamma)$. Theorem: $G^0(\gamma)$ is the original for the mapping δ of the group $K(\gamma) \cdot H(\gamma)$. A function f continuous and bounded on $\mathfrak{M}$, satisfying certain conditions and for which it is $\int_K f(kx)\mu(dk)=f(x_0)$, where $K=K_{x_0}$ is the stationary subgroup of x_0, $\mu(dk)$ a normed invariant measure on K,

Geodesics and Harmonic Functions on Symmetric Spaces SOV/20-124-6-5/ 5

is denoted to be harmonic. Theorem: If Γ_1 and Γ_2 are two zero bundles and if $G_o(\Gamma_1)=G_o(\Gamma_2)$, then for each harmonic function it is $f(\Gamma_1)=f(\Gamma_2)$. Altogether 13 theorems of similar kind are given without proof. The suggestion for considering the space $\mathfrak{R}(\Gamma)$ is due to I.I.Pyatetskiy-Shapiro.
There are 6 references, 3 of which are Soviet, 2 American, and 1 French.

ASSOCIATION: Moskovskiy institut inzhenerov zheleznodorozhnogo transporta imeni I.V.Stalina (Moscow Institute for Engineers of Railroad-Transport imeni I.V.Stalin

PRESENTED: November 12, 1958, by P.S.Aleksandrov, Academician

SUBMITTED: November 11, 1958

Card 3/3

KARPELEVICH, F.I.

Orispheric radial parts of Laplace operators on symmetric spaces.
Dokl. AN SSSR 143 no.5:1034-1037 Ap '62. (MIRA 15:4)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta.
Predstavleno akademikom P.S.Aleksandrovym.
(Operators (Mathematics)) (Spaces, Generalized)

GINDIKIN, S.G.; KARPELEVICH, F.I.

Plancherel's measure for Riemannian symmetrical spaces of non-positive curvature. Dokl.AN SSSR 145 no.2:252-255 Jl '62.
(MIRA 15:7)

1. Predstavleno akademikom P.S.Aleksandrovym.
(Spaces, Generalized) (Groups, Theory of)

KARPELEVICH, Fridrikh Izrailevich; SADOVSKIY, Leonid Yefimovich; DONCHENKO, V.V., red.; PLAKSHE, L.Yu., tekhn. red.

[Elements of linear algebra and linear programming] Elementy lineinoi algebry i lineinogo programmirovaniia. Moskva, Fizmatgiz, 1963. 274 p. (MIRA 16:10)
(Algebra , Linear) (Linear programming)

KARPELEVICH, F.I.

Non-negative eigenfunctions of the Beltrami-Laplace operator on symmetric spaces of non-positive curvature. Dokl. AN SSSR 151 no.6:1274-1276 Ag '63. (MIRA 16:10)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta. Predstavleno akademikom I.G.Petrovskim.

KAPPELEVICH, L. I.:

KAPPELEVICH, L. I.: "The connection between the border sympathetic trucks and the prevertebral nerves of the abdominal region of man and animals." Ryazan' Medical Inst imeni Academician I. P. Pavlov. Chair of Normal Anatomy. Ryazan', 19[illegible].
(Dissertation for Degree of Candidate in Medical Sciences).

SO: Knizhnaya letopis', No 23, 19[illegible]

KARPELEVICH, Y.D.; VORONIN, V.A.

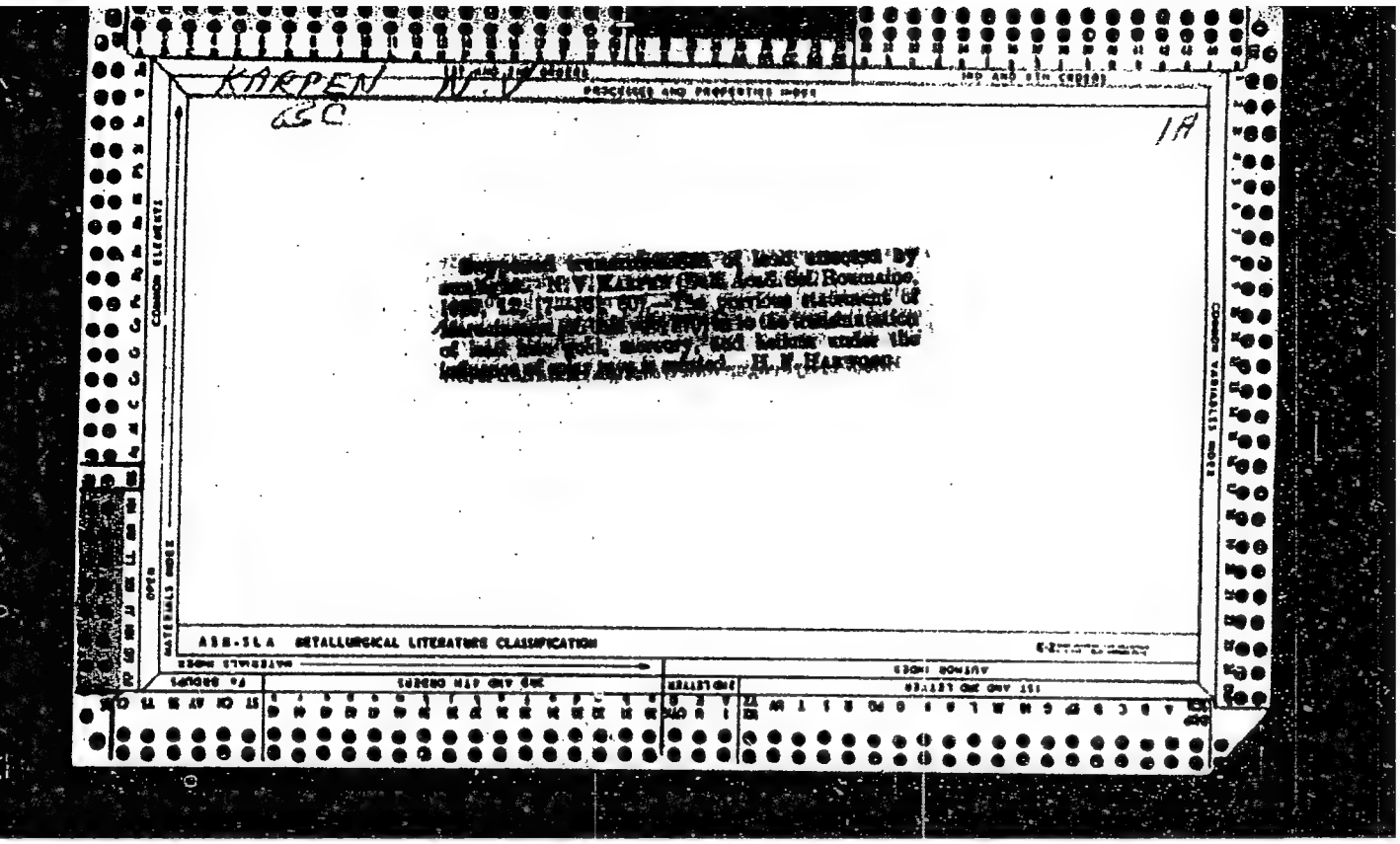
Hydraulic distributor for agricultural machines. Trakt i sel'khozmash. no.1:37-38 Ja '65. (MIRA 18:3)

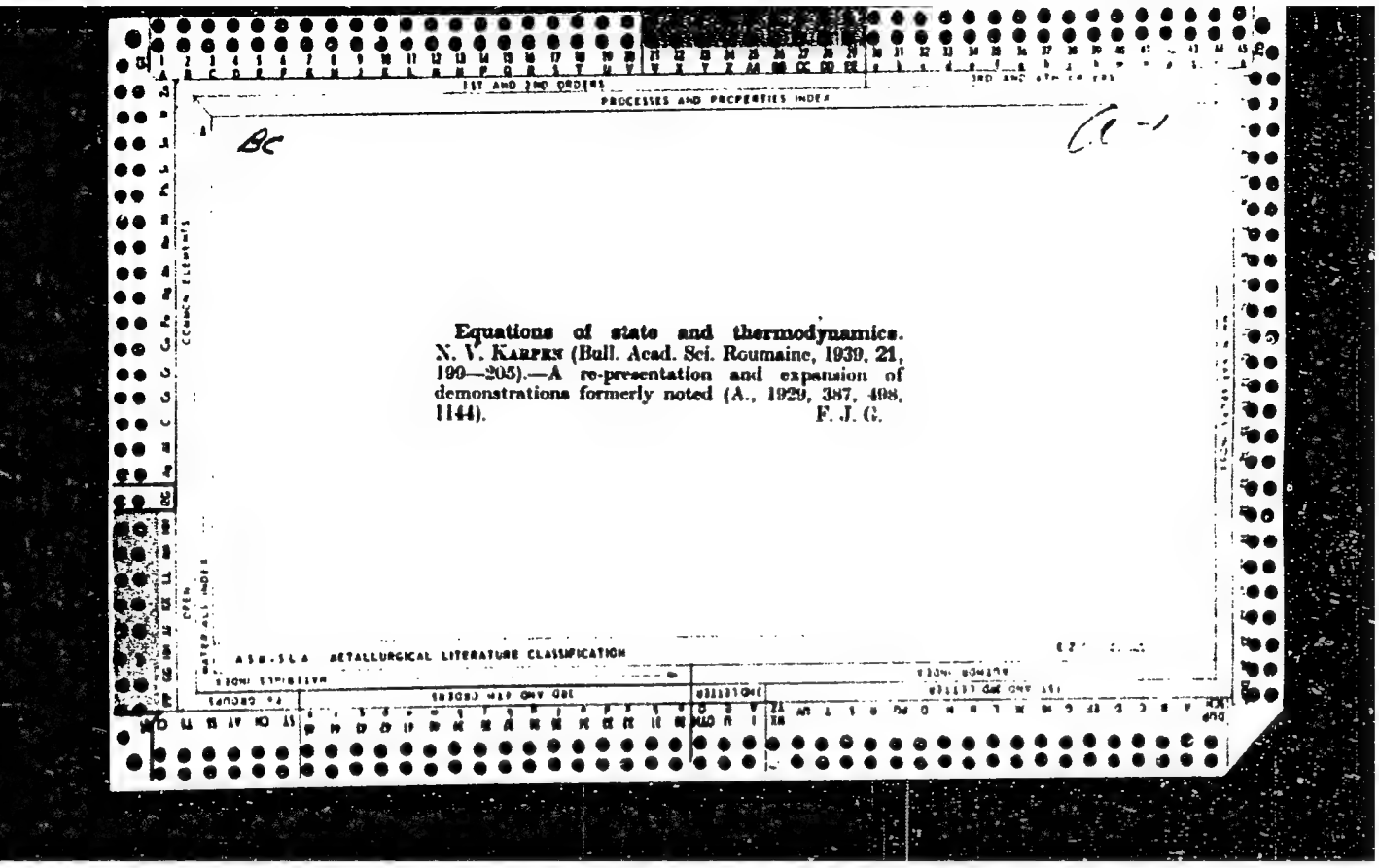
1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.

KARPELYUK, A A

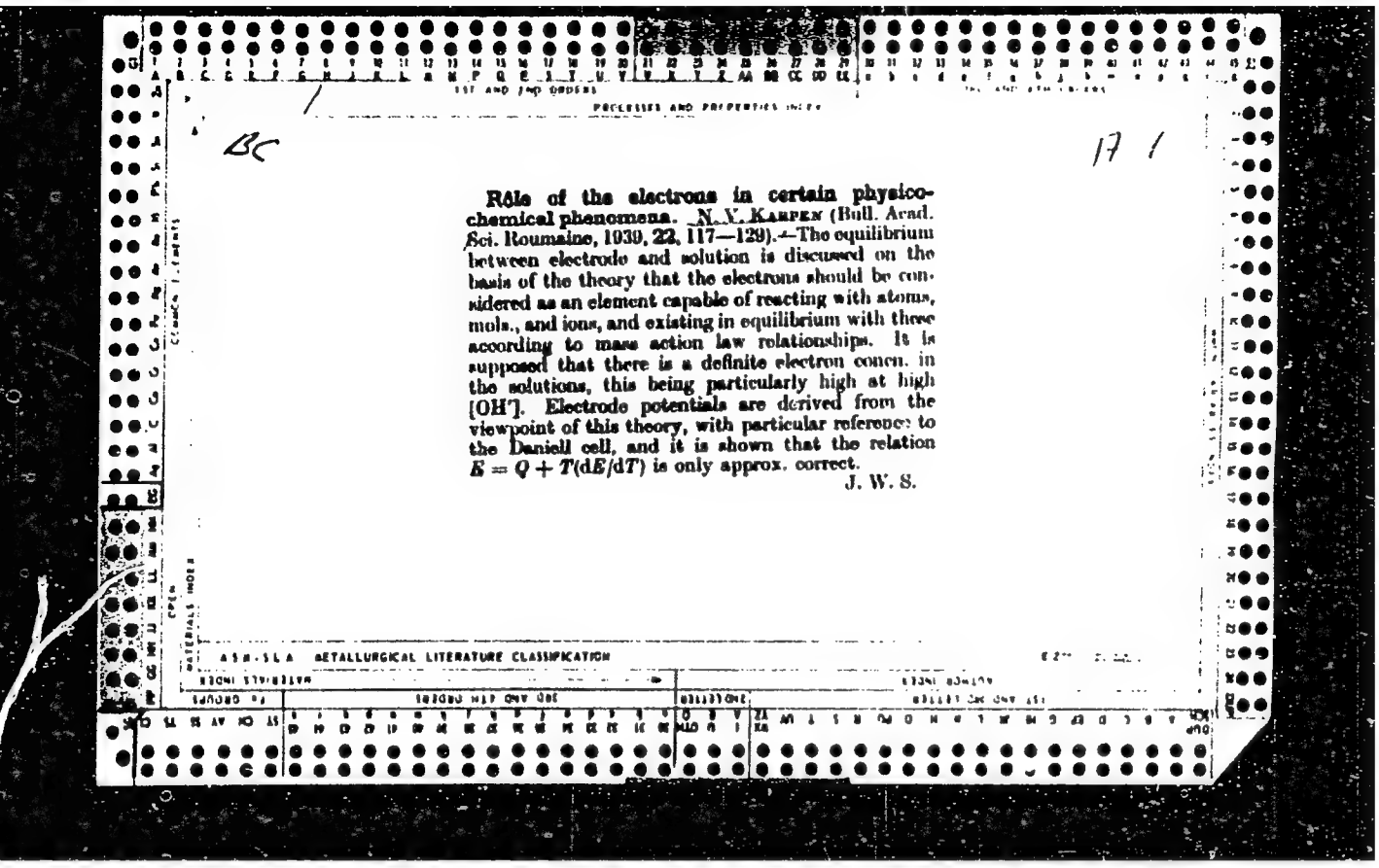
POTTER, Kh.I.; PANOVA, G.V.; KARPELYUK, A.A.

Determining the aberration constant according to a three-year observation series on the Pulkovo polar telescope. Astron. tsirk. no.174:12 N '56. (MLRA 10:3)
(Aberration)



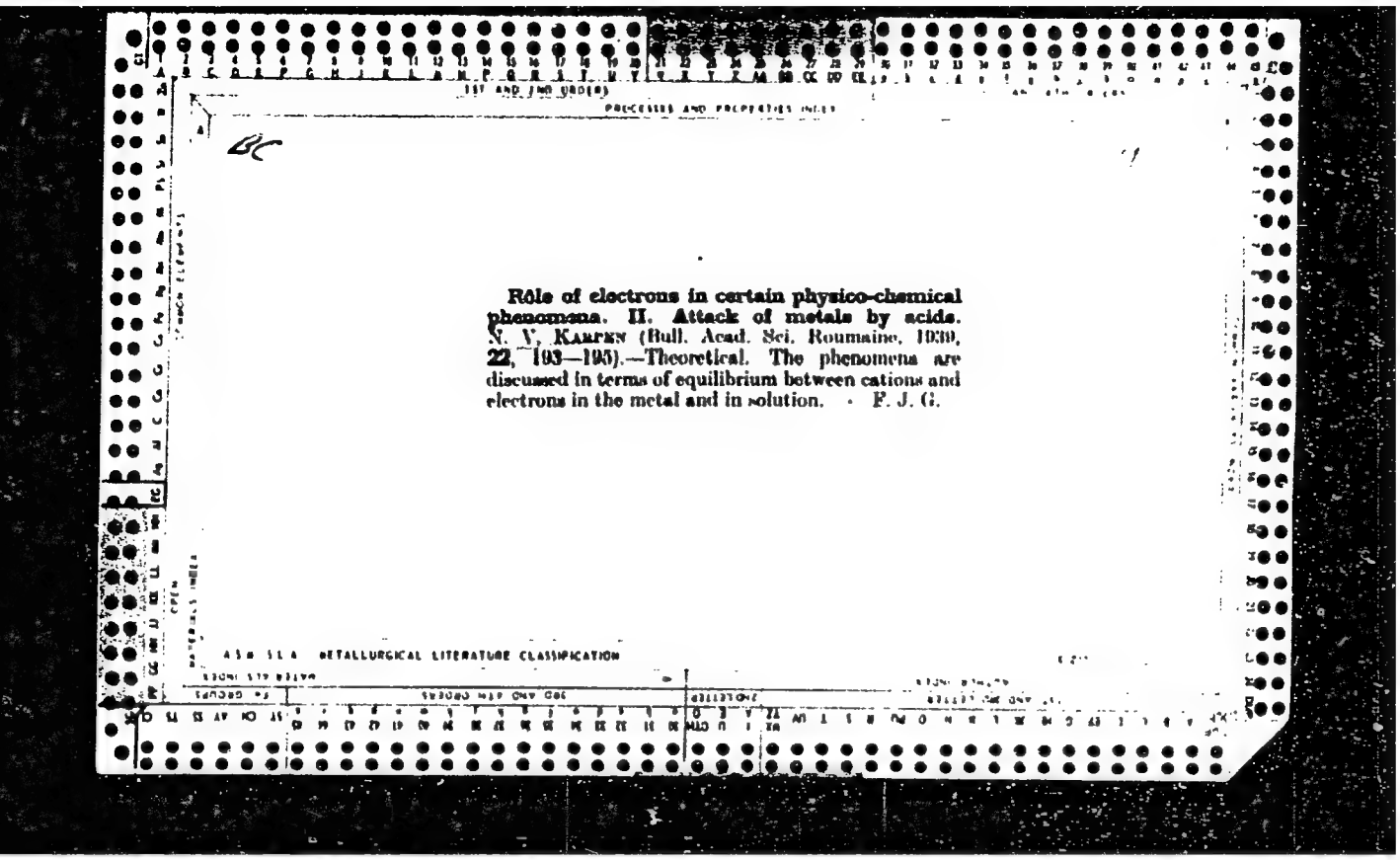


Equations of state and thermodynamics. N. V. KARPEN (Bull. Acad. Sci. Roumaine, 1939, 21, 190—205).—A re-presentation and expansion of demonstrations formerly noted (A., 1929, 387, 498, 1144). F. J. G.

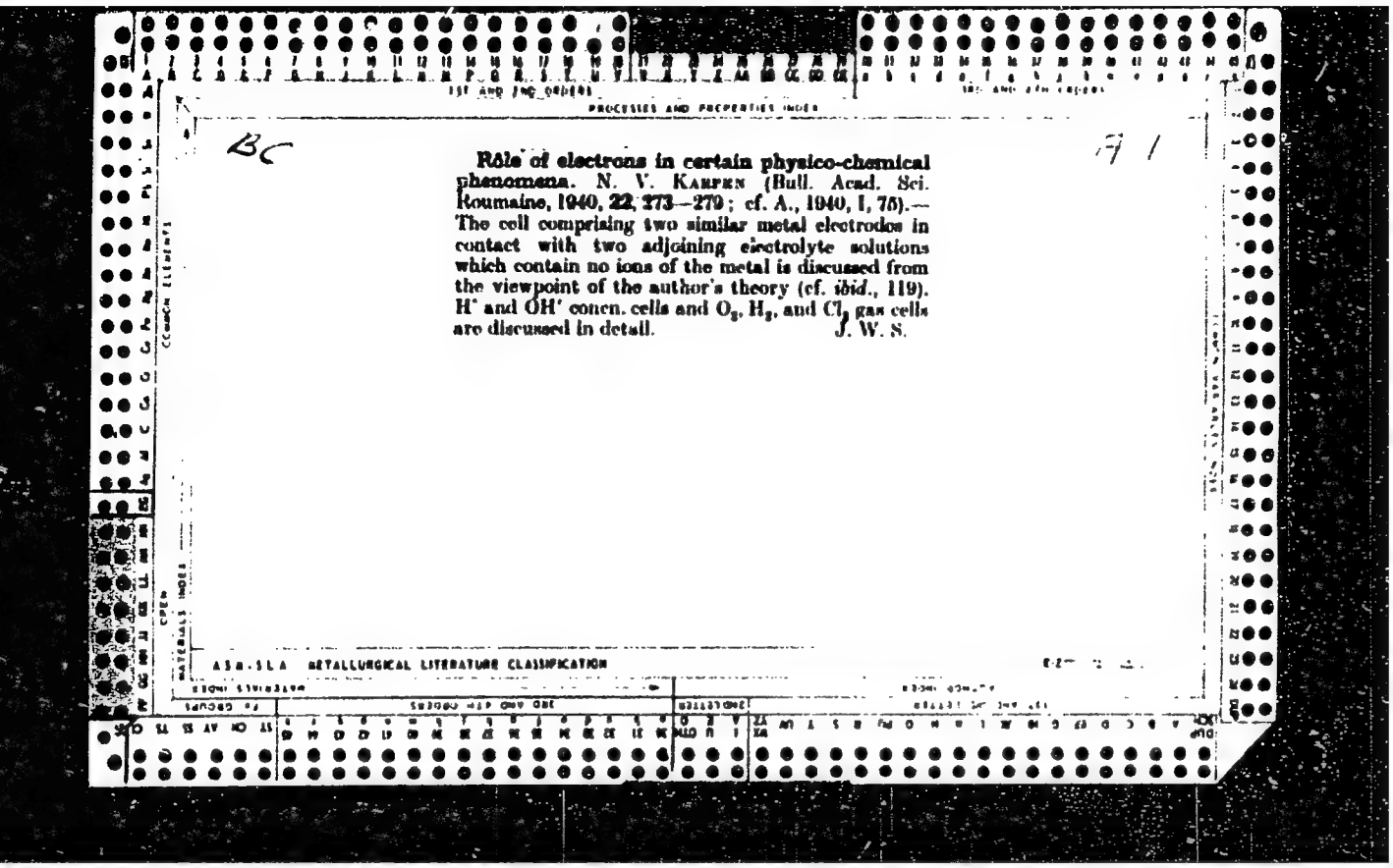


Rôle of the electrons in certain physico-chemical phenomena. N. V. Karpen (Bull. Acad. Sci. Roumaine, 1930, 22, 117—129).—The equilibrium between electrode and solution is discussed on the basis of the theory that the electrons should be considered as an element capable of reacting with atoms, mols., and ions, and existing in equilibrium with these according to mass action law relationships. It is supposed that there is a definite electron concn. in the solutions, this being particularly high at high [OH']. Electrode potentials are derived from the viewpoint of this theory, with particular reference to the Daniell cell, and it is shown that the relation $E = Q + T(dE/dT)$ is only approx. correct.

J. W. S.



Rôle of electrons in certain physico-chemical phenomena. II. Attack of metals by acids. N. V. KAILAN (Bull. Acad. Sci. Roumaine, 1939, **22**, 193—195).—Theoretical. The phenomena are discussed in terms of equilibrium between cations and electrons in the metal and in solution. F. J. G.



BC

71

Rôle of electrons in certain physico-chemical phenomena. N. V. KARPEN (Bull. Acad. Sci. Roumaine, 1940, **22**, 273—279; cf. A., 1940, I, 75).—The cell comprising two similar metal electrodes in contact with two adjoining electrolyte solutions which contain no ions of the metal is discussed from the viewpoint of the author's theory (cf. *ibid.*, 119). $H^{\cdot}$ and $OH^{\prime}$ concn. cells and O_2, H_2, and Cl_2 gas cells are discussed in detail. J. W. S.

KARPEN, N.

The role of fluctuations in the appearance of life on earth.

p. 1079 (Academia Republicii Populare Romine. Comunicarile. Vol. 6, no. 9, Sept. 1956 Bucuresti, Rumania)

Monthly Index of East European Accessions(EEAI) LC. Vol. 7, no. 2, February 195

KARPEN, N.

KARPEN, N. The mechanism of the osmotic pressure. p. 205.

Vol. 8, no. 1, Jan./Mar. 1956
BULETIN STIINTIFIC.
SCIENCE
RUMANIA

So: East European Accession, Vol. 6, No.5, May 1957

KARPENKO A.

Country : USSR
Category : Farm Animals. Q
Cattle.
Abs. Jour : Ref Zhur-Biol., No 21, 1958, 96890

Author : Filipson, Ye.; Karpenko, A.; Ganus, S.
Institut. : -
Title : Feeding Cattle Twice and Three Times Daily when Fattening with Pulp.

Orig Pub. : Molochn. i myasn. zhivotnovodstvo, 1958, No 1, 32-34
Abstract : When cattle was fattened with siloed pulp, it was distributed twice daily and this assured the complete consumption of the daily fodder ration and satisfactory daily weight gains which amounted to 1215 g whereas 825 g were planned for, as well as saved 23 percent of the time necessarily needed for the feeding of the animals as compared to a food distribution taking place three times daily.

Card: 1/1

KARPENKO, A. and NIKOLAEV, V.

Vazhnye voprosy elektrifikatsii zheleznykh dorog. [Important problems of railroad electrification]. (Zhel-dor. tranport, 1948, no. 3, p. 80-81).
DLC: HE7,Z5

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Deaprtment, Washington, 1952, Unclassified.

KARPENKO, A., inzhener

New passenger cars. Znan.sila no.6:6-7 Je '55. (MLRA 8:8)
(Automobiles)

KARPENKO, A., inzhener.

Through snow and ice packs. Za rul. 14 no.6:13 S'56.
(MLRA 10:4)

(Arctic regions--Vehicles)

KARPENKO, A., inzhener.

The UralZIS-355M truck. Za rul. 15 no.1:5-6 Ja '57. (MLRA 10:4)

1. Zamestitel' predsedatelya mezhduvedomstvennoy komissii po ispytaniyu avtomobiley UralZIS-355M
(Motortrucks)

KARPENKO, A., inzh.

Soviet-made passenger cars. Za rul. 16 no.11:20-21 N '58.
(MIRA 12:1)

(Automobiles)

[redacted], inzh.; [redacted], A.F., inzh.; [redacted], A.A., in[redacted]

Potentiometric method of determining the content of free alkali

[redacted]. (MIRA 14:7)

[redacted] nauchno-issledovatel'skiy institut sinteticheskikh zhirozame-
[redacted] i moyushchikh sredstv.
(Paraffin wax)
(Saponification)
(Alkalies)

KARPENKO, A.A.

Chamotte crown with air cooling. Lit. proizv. no.8:31 Ag '63.
(MIRA 16:10)

SOLOV'YEVA, F.I. [Soloviova, F.I.]; KARPENKO, A.A. [Karpenko, A.O.]

Interrelationship of chalcocite with galena from hydrothermal veins in the Krivoy Rog Basin. Trudy Inst. geol. nauk AN URSR. Ser. petr., min. i geokhim. no.20:70-75 '63.
(MIRA 16:8)

BESITSKIY, R.M.; KARPENKO, A.A.

Determining the acid number and free alkali in the saponified oxidate by the method of potentiometric titration. Trudy NIISZHIMSa no.3: 86-88 '62. (MIRA 16:12)

GOLIK, S.S., inzh. (Kiyev); KIZHAYEV, G.D., inzh. (Kiyev); KARPENKO, A.D., inzh. (Kiyev)

Yalta water tunnel. Vod. i san. tekh. no.9:8-12 S '64. (MIRA 17:11)

KARPENKO, A.F., kand. ekon. nauk; DOBRYAKOV, N.V., kand. sel'khoz. nauk; BOYKO, V.S., otv. za vypusk.

[Planning green fodder production; handbook on the methods of practical work for the couse "Production organization in socialist agricultural enterprises" given by the Department of Animal Husbandry] Planirovanie zelenogo konveiera; uchebno-metodicheskoe posobie dlia provedeniia prakticheskikh zaniatii po kursu "Organizatsiia proizvodstva v sotsialisticheskikh sel'skokhoziaistvennykh predpriiatiiakh" na zootekhnicheskom fakul'tete. Novosibirsk, Novosibirskii sel'khoz. in-t, 1961. 5 p. (MIRA 14:7)
(Siberiia, Western—Pastures and meadows)

KARPENKO, A.F., kand.ekon.nauk; DOBRYAKOV, N.V., kand.sel'skokhoz.nauk; BOYKO, V.S., otv. za vypusk

[Planning replacements in a poultry flock and the output of poultry products; handbook on the methods of practical work for the course "Production organization in socialist agricultural enterprises" given by the Department of Animal Husbandry"] Planirovanie vosproizvodstva stada ptitsy i vykhoda produktsii ptitsevodstva; uchebno-metodicheskoe posobie dlia provedeniia prakticheskikh zaniatii po kursu "Organizatsiia proizvodstva v sotsialisticheskikh sel'skokhoziaistvennykh predpriiatiiakh" na zootekhnicheskom fakul'tete. Novosibirsk, Novosibirskii sel'khoz.in-t, 1961. 11 p. (MIRA 14:7)

(Poultry)

KARPENKO, Anatoliy Grigor'yevich; MOROZ, I.I., redaktor; ISLENT'YEVA, P.G., tekhnicheskiy redaktor.

[Problems of cosmic flight] Problemy kosmicheskikh poletov. Moskva, Izd-vo "Znanie," 1955. 23 p.(Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 4. no.25)
(Interplanetary voyages) (MLRA 8:12)

KARPENKO, A.G. and SHURIDIN, G.A.

"Sovremennye problemy kosmicheskikh poletov" (Contemporary problems of cosmic flights), Vestnik Akademii Nauk SSSR, Vol. 25, No. 9, September, 1955, pp. 19-30.
For translation see Appendix XVII.

KARPENKO, A. and SKURIDIN, G.

/G/

"Problemy mezhplanetnykh poletov" (Problems of interplanetary flights), Oktyabr', Vol. 32 No. 9, September, 1955, pp.140-147.

KARPENKO, A. G., and LIKOV, M. L.

"Concerning the Temperature Regime in Earth Satellites," a paper presented at the Eight Annual Congress of the International Astronautical Federation, 6-12 Oct 1957, Barcelona.

KARPENKO, A G

AUTHORS: Karpenko, A.G., and Lidov, M. L. 49-4-16/23

TITLE: On the temperature regime in an artificial Earth satellite. (O temperaturnom rezhime iskusstvennogo sputnika zemli).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1957, No.4, pp. 527-533 (USSR)

ABSTRACT: Papers published on the temperature regime in artificial satellites are devoted either to evaluating the extreme values of the temperature, which cannot be achieved in reality or to the influences of the individual factors, for instance, the molecular heat flow (Refs.1-3), corpuscular radiation of the Sun (Ref.4), etc. Such an approach does not permit a sufficiently accurate determination of the possible range of fluctuations of the temperature of the satellite during its movement along an orbit. The authors of this paper assume infinite thermal conductivity of the body of the satellite and also that the satellite has no definite orientation whatever in space and these assumptions enable disregarding the concrete design parameters of the satellite. For certain circular orbits calculations were made and graphs were plotted of the minimum and

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49-4-16/23

On the temperature regime in an artificial Earth satellite.

maximum temperature reached by the body as a function of the power of the internal sources of energy and its heat capacity for a characteristic area and a characteristic reflection coefficient of the surface. In the calculations the energy from internal sources, from direct solar radiation and also from the Earth (the thermal radiation of the Earth and the reflection of the Sun's radiation) were considered. The derived formula, Eq.(19), p.531, is utilised for determining the temperature for two types of orbits, one circular in a plane perpendicular to the line Earth-Sun (graph Fig.5) and one with a circular orbit in a plane passing through the line Earth-Sun. In both cases it is assumed that the orbits are at distances of 200 and 100 km from the surface of the Earth. By giving a satellite a definite orientation the temperature conditions can be influenced appreciably; the finite heat conductivity of the body also brings about a change in the results. It can be seen from the graphs that, in presence of small internal sources of energy in the satellite, the temperature inside the satellite will vary between 0 and 10°C.

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49-4-16/23

On the temperature regime in an artificial Earth satellite.

There are 9 figures and 6 references, all of which are Slavic.

SUBMITTED: October 18, 1956.

ASSOCIATION: Ac.Sc. USSR Astronomy Council, Inter-Departmental Commission on Inter-Planetary Travel, (Akademiya Nauk SSSR Mezhduvedomstvennaya Komissiya po Mezhplanetnym Soobshcheniyam pri Astronomicheskom Sovete).

AVAILABLE: Library of Congress.

Card 3/3

S/070/61/006/001/010/011
E073/E335

AUTHORS: Karpenko, A.G., Belyayev, L.M., Vitovskiy, B.V. and Dobrzhanskiy, G.F.

TITLE: Crystalliser for Growing Crystals by the Evaporation Method

PERIODICAL: Kristallografiya, 1961, Vol. 6, No. 1, pp. 146 - 147

TEXT: In spite of numerous advantages of this method it has been relatively little used. Its main drawbacks are a decrease in the volume of the mother liquor during crystallisation, loss of solvent during evaporation (important in the case of poisonous or expensive solvents) and impossibility of obtaining a continuous process of crystallisation without having to fill the crystalliser with saturated solutions. The latter is particularly important in crystallising substances which are difficult to dissolve. The authors propose a design of crystalliser which enables continuous crystallisation by evaporation in a closed crystalliser without loss of the solvent, maintaining a constant level of the

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Crystalliser for Growing .....

mother liquor. The crystalliser does not require any pumping systems or any other forcing devices for maintaining a constant level and the desired degree of saturation of the solution. Transfer of the substance to be crystallised from the solution zone into the space where crystallisation takes place and maintenance there of the required saturation are by means of natural circulation, including evaporation of the solvent, its condensation, return of the condensate into the zone of solution of the substance and movement of the solution into the zone of crystal growth. The crystalliser, Fig. 1, is mounted on an electric heater and contains all the apparatus for maintaining and controlling the temperature. It consists of three coaxial vessels, fitted one inside the other, in such a way that the first (external) and the second (middle) intercommunicate at the top whilst the second and third (inner vessels) intercommunicate from the bottom. The edges of the first and third vessels should be above the level of the mother liquor, whilst the edge of

Crystalliser for Growing .....

the second is a few cm below the level of the mother liquor. The first vessel is intended for dissolving the crystallised substance and for receiving the condensate. It also serves as a settling vessel and a thermostat. The second vessel serves as a carrier of the solution and has a seal preventing the falling of germinations from the zone of dissolution into the crystalliser. The third (internal) vessel is the crystalliser. The communication between the lid of the crystalliser and the first cylinder is by means of a ground surface. In a crystalliser of this design, a "continuous" complicated cycle of mass transfer from one state into another takes place. The crystalliser is filled with a solution which is saturated at a given temperature. The degree of filling can be seen from Fig. 1. At the bottom, between the walls of the first and the second vessels, the excess material is fed in which is considerably greater than the weight of the crystal to be produced. The geometric dimensions of the vessels are so chosen as to obtain an evaporation surface in

Crystalliser for Growing .....

the first and the second vessels, which is considerably smaller than the surface in the third vessel. During operation of the crystalliser condensation of the solvent will occur at the inner surface of the lid and the top part of the first vessel. The lid is made semispherical or conical so as to ensure that the condensate returns only into the first vessel where dissolution of the recrystallised substance takes place as a result of continuous inflow of solvent. Since the vessels intercommunicate, a constant hydrostatic level difference is maintained, which is governed solely by the difference in the density of the solution in the first and third vessels and in the system as a whole constant concentration flows will establishe themselves, as shown by arrows in Fig. 1. The solvent evaporated from the third vessel is replaced by a quantity of solution of equal mass from the first vessel. In this way, there will be a continuous transfer of the crystallising substance from the solution zone into the

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S/070/61/006/001/010/011
E073/E335

Crystalliser for Growing .....

crystalliser, as a result of which a constant saturation is maintained in the crystalliser. The specific degree of saturation will become established at a given temperature which hardly changes at all with the growth of the crystal. Under otherwise equal conditions the degree of saturation and consequently the speed of growth of the crystal is controlled by changing the temperature of the solution. Furthermore, equipment can be designed which permits changing (increasing in the case of a positive temperature coefficient of the solubility) the evaporation surface of the first and the second vessels in accordance with a given programme. The temperature field of the crystalliser has a small gradient directed from the bottom upwards. The thermal effects of the reactions in the system are localised and can be easily taken into consideration. Mechanical mixing of the solution in the crystalliser is by means of a magnetically actuated mixer. The reliability of the described crystalliser was verified under laboratory conditions for a number of substances,

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S/070/61/006/001/010/011
E073/E335

Crystalliser for Growing .....

including substances of low solubility. Figure 2 gives a photograph of the equipment. There are 2 figures and 1 Soviet reference.

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography of the AS USSR)

SUBMITTED: May 26, 1960

Card 6/

BELYAYEV, L.M.; VITOVSKIY, B.V.; DOBRZHANSKIY, G.F.; KARPENKO, A.G.

Modified crystallization tank. Kristallografiia 6 no.2:286-287 Mr-Ap '61. (MIRA 14:9)

1. Institut kristallografii AN SSSR.
(Crystallization)

KARPENKO, A.I. DECEASED 1961/I

c 1960

SEE IIC

ELECTRIC RAILROADS

KARPENKO, A.I.

Protection of a frequency trebler from damages. Elek. i tepl. tiaga 4 no.10:28-29 O '60. (MIRA 13:10)

1. Nachal'nik uchastka energosnabzheniya Stalinskoy dorogi.
(Railroads--Electric equipment)
(Frequency mulitpliers)

KARPENKO, A.I.

Universal statoscope for testing weight-piston manometers.
Izm.tekh. no.9:18-19 S '62. (MIRA 15:11)
(Manometer--Testing)

KARPENKO, A.I.

We need binding screws. Prom. energ. 18 no.3:61 Mr '63.

1. Energouchastok Pridneprovskoy zheleznoy dorogi.
(Electric fuses)

KARPENKO, A.I.

Practices in obtaining large crops. Zemledelie 27 no.6:77-80 Je '65. (MIRA 18:9)

1. Glavnyy agronom Gosudarstvennogo plodovogo sovkhoza "Tsyurupa" Voronezhskoy oblasti.

KARPENKO, A. K.

Television image without scanning. Cz spoje 6 no.12:15 D '61.

ZOTOV, V.P.; SILUYANOV, V.G.; GUGINA, Ye.F.; AUERMAN, L.Ya.; ALEKHINA, M.S.; BEZZUBOV, A.D.; BODROV, V.A.; BUDNYY, A.V.; BURTSEV, Ye.L.; VAYNSHTEYN, V.O.; GAVRILOV, A.N.; GORBATOV, V.M.; GRITSENKO, N.N.; DOLGUSHEVA, L.I.; YEDYGENOV, K.Ye.; ZHURAVLEVA, S.S.; ZACHESKIN, Ya.A.; IVKIN, A.P.; IZOTOV, A.K.; IL'INSKIY, N.A.; IRINARKHOVA, A.M.; KARPENKO, A.K.; LYSOGOR, P.M.; LUPISH, A.T.; OLEYNIKOV, V.V.; ORANZHEREYEVA, V.F.; PETROV, N.A.; PYATIBRATOV, M.A.; ROMANOV, A.N.; RAUBE, P.V.; RYZHENKO, L.P.; SEMYKIN, A.A.; SHEFER, A.P.

G.IA.Ivanov; obituary. NTO 4 no.10:39 O '62. (MIRA 15:9)
(Ivanov, Georgii IAkovlevich, 1897-1962)

38159. KARPENKO, A. N.

Protsess pitaniya i pabota katushechnogo apparata pri nizhnem vyseve. Trudy Vsesoyuz. Nauch.-issled. in-ta mechanizatsii sel. khoz-va, t. XII, 1949, s. 47-78

1. KARPENKO, A.N.

2. USSR (600)

4. Grasses

7. Mechanization of summer and fall cultivation grass grown for seed. Dost. sel'khoz no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

KARPENKO, A. N.

Kvadratno-gnezdovoi sposob poseva i posadki (Seeding and planting in checkrowed clusters) Moskva, 1953. 32 p. (Glav. upr. s. -kh. propagandy i nauch. -issled. uchrezhdenii M-va sel'skogo khoziaistva i zagotovok SSSR)

SO: Monthly List of Russian Accessions, Vol. 7, No. 6, Sep. 1954

KARPENKO, Aleksandr Nikolayevich, akademik, professor; POLEVITSKIY, Konstantin Aleksandrovich, professor; PESTRYAKOVA, S.V., redaktor; BALLOD, A.I., tekhnicheskiy redaktor

[Agricultural machines and implements] Sel'skokhoziaistvennye mashiny i orudiia. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 527 p. (MLRA 10:3)

1. Moskovskaya Ordena Lenina sel'skokhozyaystvennaya akademiya im. K.A.Timiryazeva (for Karpenko). 2. Leningradskiy sel'skokhozyaystvennyy institut (for Polevitskiy)
(Agricultural machinery)

KARPENKO, Aleksandr Nikolaevich, akademik; KATSNEL'SON, S.M., red.; GUBIN, M.I., tekhn.red.

[New developments in the mechanization of tillage] Novoe v mekhanizatsii polevodstva. Moskva, Izd-vo "Znanie," 1957. 31 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.5, no.28) (MIRA 11:1)
(Agricultural machinery)

KARPENKO, A.N., akademik.

Machinery and mechanization of socialist agriculture on the 40th anniversary of the great October. Zemledelie 5 no.11:17-30 N '57.
(Farm machanization) (Agricultural Machinery)(MLRA 10:11)

ALEKHIN, N.V.; KARPENKO, A.N., red.

[Mechanized field-crop cultivation] Mekhanizatsiia polevodstva. 2 perer. izd. Moskva, Gos.izd-vo selkhoz lit-ry, 1958. 532 p. (Agricultural machinery) (MIRA 12:4)

KARPENKO, A.N.

AUTHOR: Karpenko, A.N., Academician 25-58-4-5/41

TITLE: Mechanization Becomes Complete (Mekhanizatsiya stanovitsya kompleksnoy)

PERIODICAL: Nauka i Zhizn', 1958, Nr 4, pp 12-16 (USSR)

ABSTRACT: The following new agricultural machines are now being designed or already in use in the Soviet Union: improved "MTZ-2" wheel tractors; diesel tractors; small-track plowing tractors; the "DT-100" and "DT-140" chain-tread tractors with trailers; special tractor type "DT-55", for work on moors and turf peats; chain-tread tractors capable of working on 25° slopes without turns, by using two similar machines suspended on the front and rear; chassis-tractors, etc. equipped with hydraulic devices to carry agricultural implements. The speed of the new tractors will be over 10 km/hour. Plowing is now being carried out by one-man operated machines with hydraulic devices, reverse-plows for smooth tilling, and three-stage plows for tilling in layers. Seeders, which simultaneously sow and fertilize, as well as special corn sowing machines, are being utilized. VIM and VISKhOM have designed improved self-propelled machines and trailers for hay baling and stacking, as well as a bale collector with a capacity of 3-4 tons. In-

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Machanization Becomes Complete 25-58-4-5/41

formation includes various types of combine such as the "SK-2.6" combine for silo harvesting; the "SK-3" self-propelled combine equipped with a thresher, reaper binder, hydraulic lifting and dropping devices, and a speed regulator; a series of uni-flow trailer-combines for harvesting grain crops on small fields; combines for the pressing and cutting of straw; a special corn harvester; combines for the cleaning of sugar beets and the removal of the leaves; and the "SKP-2" double-row combine. There are 5 figures.

ASSOCIATION: VASKhNIL

AVAILABLE: Library of Congress

Card 2/2 1. Agriculture-Machines-Design

KARPENKO, A.N.

PHASE I BOOK EXPLOITATION SOV/4358

Tvorcheskiye vzaimodeystviye (Labor and Engineering in the Seven-Year Plan) Moscow, Profizdat, 1960. 365 p. (Series: Massovaya biblioteka rabochego) 10,000 copies printed.

Compiler: S. G. Kryloy; Ed.: A. V. Anisimov; Tech. Ed.: A. A. Golichenkova.

PURPOSE: This book is intended for the general reader.

COVERAGE: The book is a collection of 13 articles dealing with the achievements and progress of the Seven-Year Plan in branches of the Soviet economy and in science. Attention is given to power plant construction, machine building, cybernetics, electrification, transportation, prospecting, steel production, production of consumer goods, mechanization of agriculture, and chemistry. Suggestion for further progress are made. No personalities are mentioned. There are no references.

Prokopovich, A. Ye. [Doctor of Technical Sciences] Program Control of Machine Tools 59

Kabanitskiy, A. Ye. [Deputy Director, Experimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov (Experimental Scientific Research Institute of Metal-Cutting Machine Tools)] Fron Automatic Machine Tools to Automatic Production Lines, Shops, and Factories 76

Solodovnikov, V. V. [Doctor of Technical Sciences, Professor] Cybernetics 119

Petrov, B. N. [Corresponding Member, Academy of Sciences USSR] Automation in the Near Future 127

Gasparyan, D. Yu. [Candidate of Chemistry] Chemistry Today and Tomorrow 142

Polozov, L. S. [Candidate of Technical Sciences] Foundation of Industry 166

Strelkov, V. Yu. [Deputy Director, Moscow Branch of the Gidroenergoproyekt Institute] The Seven-Year Plan and the Electrification of the USSR 189

Chukhanov, Z. F. [Corresponding Member, Academy of Sciences USSR] On Comprehensive Utilization of Fuel 207

Borisov, M. I. [Chairman, Central Committee, Trade Union of Workers in the Building Materials Industry]. The Concrete and Large Construction Project 223

Cherkasov, A. A. [Candidate of Technical Sciences] Welding Entrusted to the Future 252

Shcherbakov, P. I. [Member, Academy of Sciences USSR] What Is New in Prospecting for Mineral Resources 267

Petrov, N. A. [Candidate of Technical Sciences, Deputy Chairman, State Scientific and Technical Committee, Council of Ministers of the USSR] New Engineering for the Creators of Plenty 290

Smirnov, S. S. [Instructor at the Automation Laboratory, Leningrad City Machine-Tool Technological Institute Khlopchatobumazhnoy promyshlennosti (Central Scientific Research Institute of the Cotton Industry)] For the Welfare of the People 308

Smirnov, P. S. [Director, Central'nyy nauchno-issledovatel'skiy institut kozhevennoy promyshlennosti (Central Scientific Research Institute of the Leather and Footwear Industry)]. Half a Billion Pairs of Shoes 320

Karpenko, A. N. [Member, All-Union Academy of Agricultural Sciences imeni V. I. Lenin. Large-Scale Mechanization of Agriculture 325

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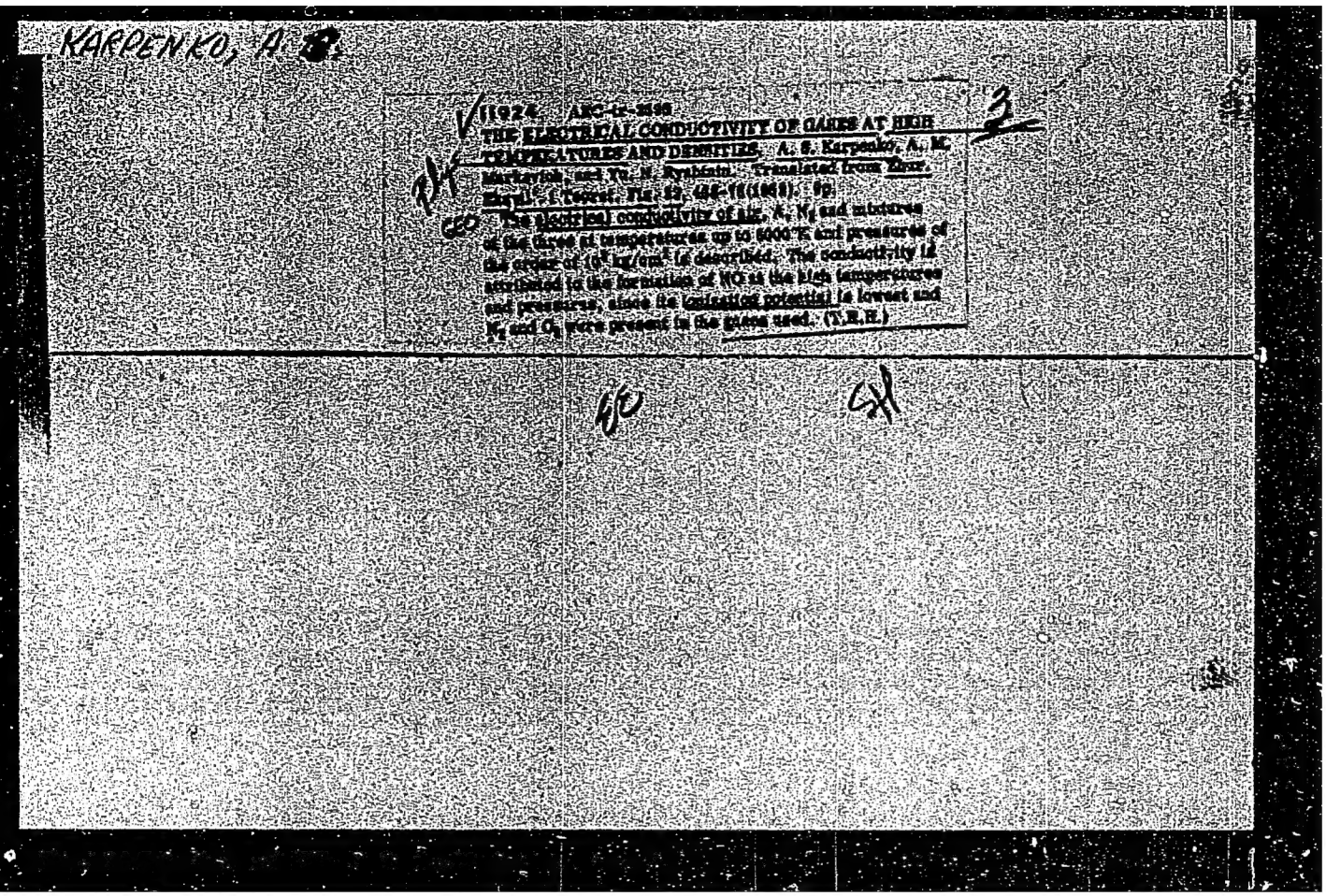

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